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# DISplus

**Model: All**

**Production: All**

# OBJECTIVES

After completion of this module you will be able to:

- Familiarize yourself with components available with the DISplus.
- Identify the different leads used in the DISplus.
- Identify the connection on the back of the DISplus.

## Purpose of the System

The purpose of the DISplus is to meet the challenges for present and future generation BMW group vehicles.

The functions of the DISplus that are:

- Diagnosis Program
- Measurement Techniques
- Remote Controller for the SSS to perform Coding Individualization and Programming

The DISplus has Network capability and allows for any necessary upgrades in the future to keep up with the vehicle technology to come.



## Specifications:

- 500Mhz Intel Pentium™ III processor
- 128MB RAM
- 13.6 GB hard drive
- DVD drive
- Sound card with 2 speakers
- Network card for LAN connection (connected to the Service Department network)
- Additional SVGA output for connection to an external monitor
- 15" TFT touch screen monitor
- Vehicle communication via a diagnostic head (Radio frequency)

# System Components

## Monitor

The DISplus uses a 15” TFT (Thin Film Transistor) monitor. It has a pressure sensitive touch screen controller to direct the curser movement.

The monitor is attached to the DISplus by a 15’ cable that allows it to be used either on the swivel stand or remotely, e.g. inside of a vehicle.



## Main Power Switch

The main power switch is located in the upper right hand side, at the rear of the DISplus.

The main switch is turned on first, before turning the DISplus on from the front panel. The System Status LED on the front panel should illuminate amber when the main power has been turned on (see lower left illustration).

Circuit breakers are located below the DISplus computer. If the unit fails to power-up, check the reset of the circuit breakers before calling for service.



**ON/OFF Switch**

Rear Panel



**ON/OFF Button & Statue LEDs**

Front panel



**Circuit Breaker**

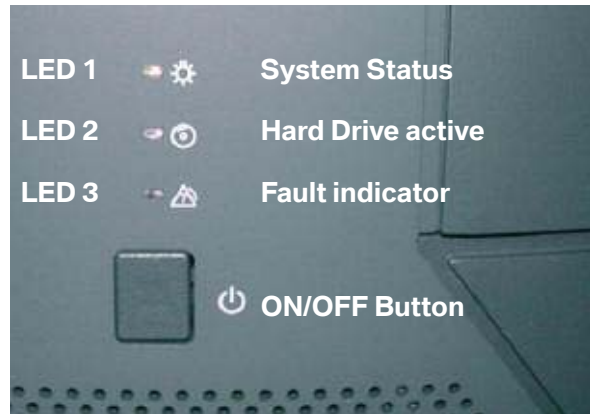
Under CPU (base)

## System Indicators and ON/OFF Button

After the main power switch has been turned on, the DISplus is powered up by pressing the on/off button on the front panel.

During power up, LED 2 will illuminate. When the process is complete, the System Status LED changes from amber to green.

The fault indicator, LED 3, illuminates amber when there is a fault with the DISplus.



## DVD and 3.5" Floppy Drive

The DVD and Floppy drives are located behind a door on the right side of the unit.

The Floppy drive is used for the boot-up disk when loading the Diagnosis Program.

The DVD drive is used to load the Basis and Program CDs for Diagnosis.

The TIS CD is also loaded in the DVD drive and remains in the drive for the computer to access during TIS operation.



## RF Access Point

The access point is the transfer device between the hardwired LAN network and the radio frequency assisted LAN.

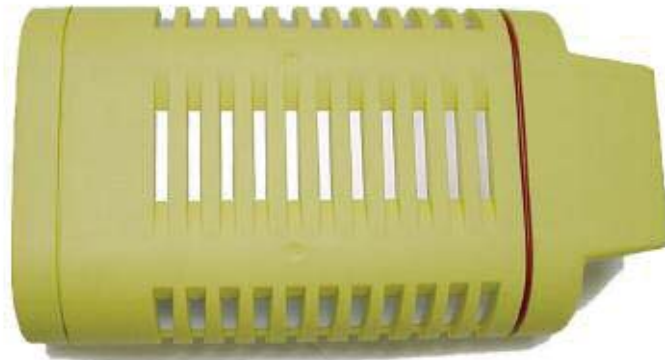
The DISplus is connected to the access point via a network LAN cable. The access point then communicates with the Diagnostic Head using a radio frequency LAN link.



## Diagnostic Head

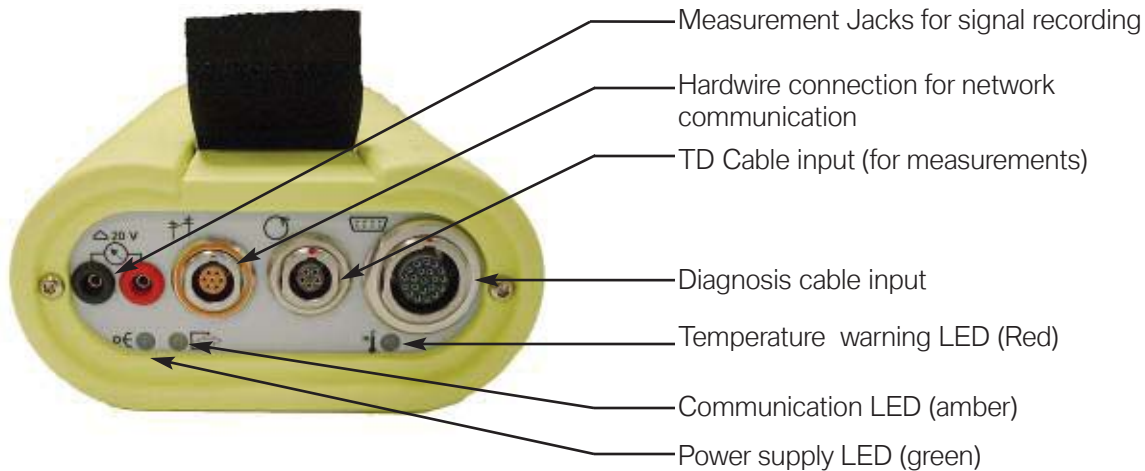
The DISplus uses a Diagnostic Head similar to the DISplus III as the communication link between the DISplus and the vehicle electronics.

The Head receives operating power when the diagnosis cable is connected to the vehicle.



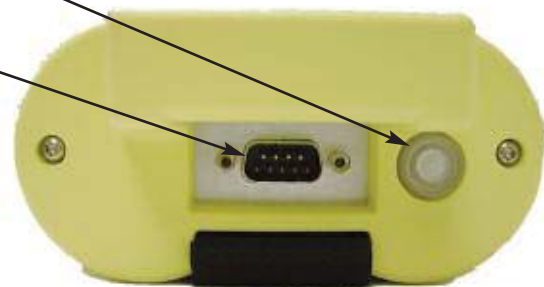
Communication between the DISplus and the Head can occur two ways:

- Radio frequency (maximum 30m distance)
- Hard wired to the network or DISplus



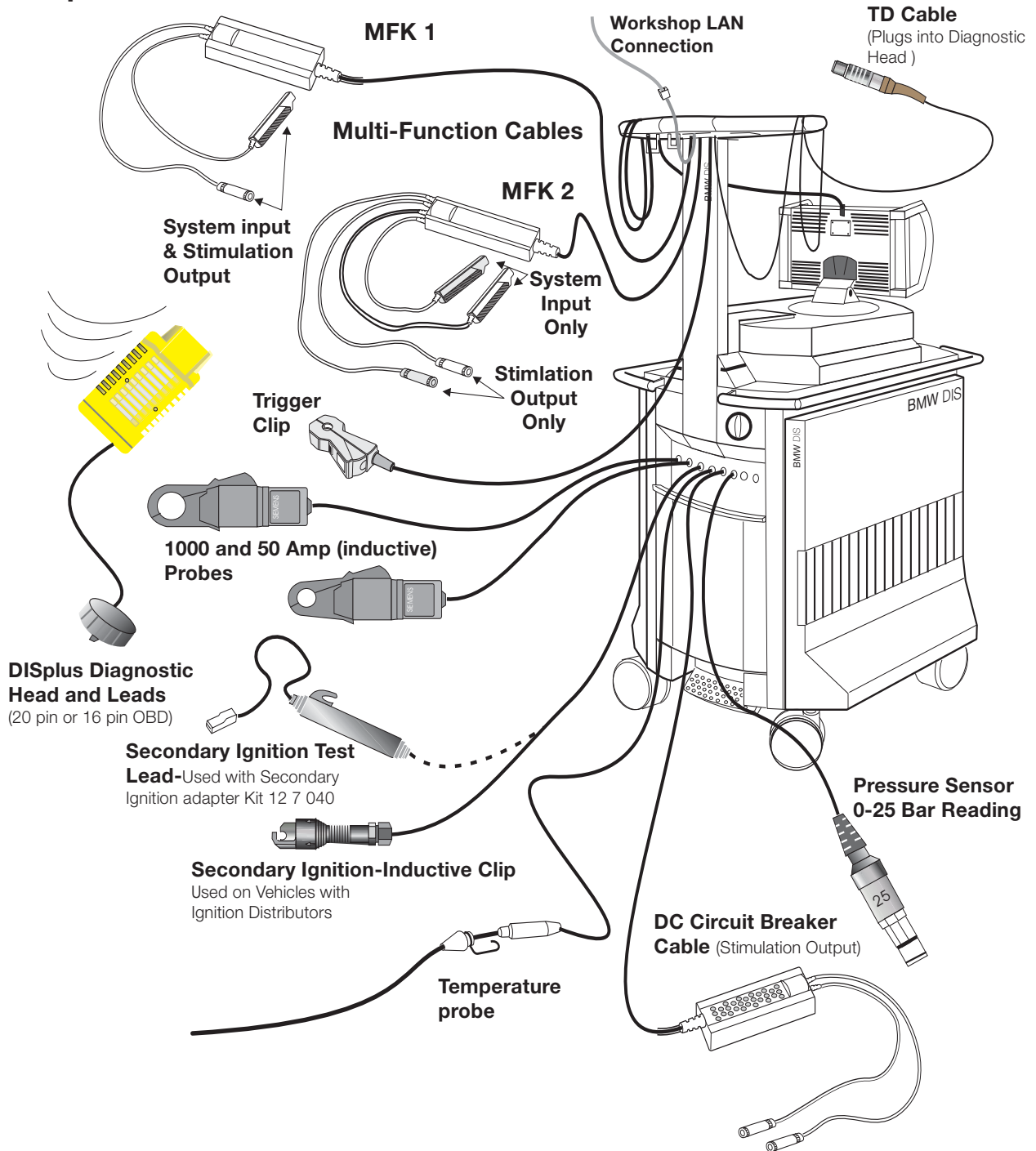
Signal recorder button  
(currently not used)

Serial interface connection



# DISplus Cables and Leads

## DISplus Cables:



### ■ Diagnostic Cable

20 and 16 pin cables are provided for connection between the vehicle diagnostic socket and Diagnostic Head.



**16 pin OBD II connector**



**20 pin connector (not used for MINI)**

### ■ Test Cables

Various test cables and the main power cable are connected to the rear of the DISplus through the conduit channel of the cable arm mast. The following test cables are stored on the arm.



### ■ LAN (Local Area Network) Connection

The LAN connection has the appearance of a large phone receptacle. It provides the connection for the DISplus to the Ethernet wiring for the Service Department Network.

### ■ TD (RPM input) Cable

TD is a processed engine RPM signal. The TD input cable is used for specific test modules or preset measurements that require a hard wired RPM input for measurement functions.





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■ **Multi-Function Test Cable-MFK #1  
(two cable ends)**

MFK 1 is used to measure:

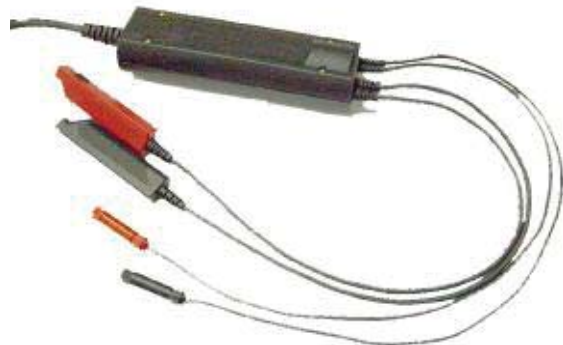
- Voltage - up to 50 Volts
- Current - up to 2 Amps
- Resistance
- Diode Testing
- Frequency
- Period
- Duty Cycle
- Pulse Duration
- Oscilloscope Measurements



■ **Multi-Function Test Cable-MFK #2  
(Four cable ends)**

MFK 2 is used to measure:

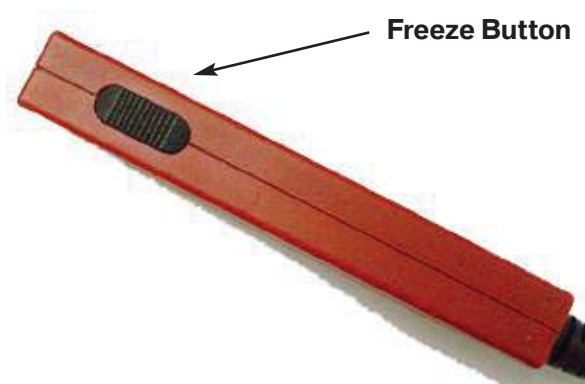
- Voltage - up to 500 Volts
- Frequency
- Period
- Duty Cycle
- Pulse Duration
- Oscilloscope Measurements



Both MFK 1 and MFK 2 can be used for signal outputs from the stimulate output function of the multimeter.

On MFK 2, the two large cable ends are for input only (measuring) and the two small ends are for the Stimulate Output function. MFK 1's leads are for both measuring and stimulation.

Both large positive cable ends of MFK 1 and MFK 2 include a button used to hold the measured value on the display screen.



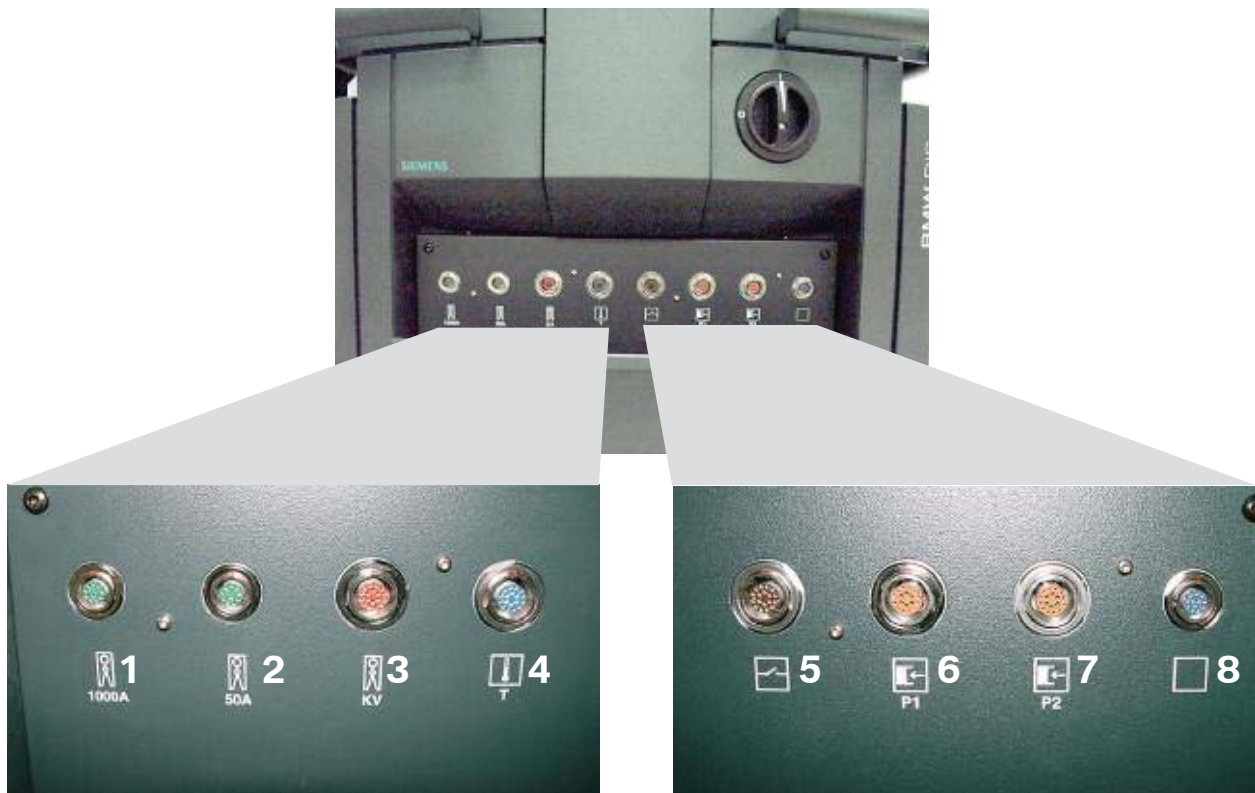
### ■ Trigger Clip (inductive)

The trigger clip is used when testing ignition or fuel injection systems to establish engine firing order.



### Additional Test Cables

There are additional test cables connected to the rear of the DISplus on the measurement system board. The ends of the cables are color-coded for easy identification.



1. 1000 Amp probe
2. 50 Amp probe
3. Secondary Ignition Clip
4. Temperature Sensor

5. DC Circuit Breaker
6. Pressure Sensor 1
7. Pressure Sensor 2
8. Future Use

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### ■ Secondary Ignition Test Cables

The inductive clip (1) is used when checking secondary ignition on vehicles. It is clipped to the vehicle's spark plug wire.



### ■ 50 and 1000 Amp Inductive Probes

The Amp probes measure AC and DC current. They are self-calibrating inductive pickups.



### ■ Temperature Sensor

The long temperature probe measures the temperature of liquids and gasses. The measurement range is from -20°C to 200°C.



